

APPENDIX X

InformUpdateProcess(status) (* macro, describes interface to update process *)
(*If status = new, update process sends entire forwarding table.*)
(*If status = free, update process sends next update *)

Protocol Actions at Server to Send Updates Reliably

NEW_UPDATE(L, B) (* routine called by update process to send new update B *)
 With LinkArray[L] DO
 Buffer:= B (* store update for possible retransmission *)
 SendUpdate(L, ServerId, ConnectId, SequenceNumber, Buffer)
 StartRetransmitTimer(L,RetransmitTimerValue)
 Retransmits:= 0;

RETRANSMIT_TIMER_EXPIRY(L) (* called when retransmit timer expires *)
 With LinkArray[L] DO
 If Retransmits \geq MaxRetransmits then RestartConnection(L)
 Else
 SendUpdate(L, ServerId, ConnectId, SequenceNumber, Buffer)
 StartRetransmitTimer(L,RetransmitTimerValue)
 Retransmits:= Retransmits + 1;

RECEIVE(L, Ack) (* called when an ack is received *)
 With LinkArray[L] DO
 If Ack.ConnectId = ConnectId and Ack.ServerId = ServerId and
 Ack.SequenceNumber = SequenceNumber then
 If SequenceNumber is at maximum value then RestartConnection(L);
 Else (* packet received by client, and can send next update *)
 SequenceNumber:= SequenceNumber + 1;
 StopRetransmitTimer;

InformUpdateProcess(free);

(* ready to receive next update *)